



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,469	12/16/2003	Ramgopal Darolia	13DV-14273	1468
30952	7590	03/05/2008	EXAMINER	
HARTMAN AND HARTMAN, P.C. 552 EAST 700 NORTH VAIPARAISO, IN 46383				BURKHART, ELIZABETH A
ART UNIT		PAPER NUMBER		
1792				
MAIL DATE		DELIVERY MODE		
03/05/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

1. Applicant argues that the Rigney Patent ('038) teaches nothing about an electron beam dissociating a metal atom from a carbide compound and nothing in the Rigney Patent ('038) suggests providing an oxygen level in excess of that required to simply reform the TBC material (YSZ) dissociated during evaporation. The examiner agrees that the Rigney Patent ('038) does not disclose dissociating a metal atom from a carbide compound and oxidizing said metal atom, but simply discloses vaporizing a carbide to deposit carbide precipitates along with the YSZ. However, the Rigney Patent ('038) discloses that the ingot material may contain a carbide to deposit carbide precipitates along with YSZ (Col. 5, lines 55-58) which in turn reduces the thermal conductivity and the Rigney Application ('838) discloses that separate ingots of metal oxide and YSZ may be used to co-deposit a third oxide along with YSZ, wherein the metal oxide may also be formed by oxidizing a metal vapor [0024]. So while the Rigney Patent ('038) does not disclose providing an oxygen flow in excess of that required to simply reform YSZ which dissociates during electron beam evaporation, the Rigney Application ('838) does disclose providing a sufficient oxygen flow to oxidize metal source vapor to co-deposit a third metal oxide. Thus, the combination of the Rigney Patent ('038) and the Rigney Application ('838) would suggest supplying a sufficient amount of oxygen to oxidize a metal vapor source in order to deposit a third oxide and that by using a carbide as the metal vapor source, which may be vaporized by electron beam, there is an additional advantage of forming carbon-containing precipitates which reduce thermal conductivity.

Please note that the test of obviousness is not an express suggestion of the claimed invention in any or all references, but rather what the references taken collectively would suggest to those of ordinary skill in the art presumed to be familiar with them (*In re Rosselet*, 146 USPQ 183).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELIZABETH A. BURKHART whose telephone number is (571)272-6647. The examiner can normally be reached on M-Th 7-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy H. Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Elizabeth A Burkhart/
Examiner, Art Unit 1792

Application/Control Number: 10/707,469
Art Unit: 1792

Page 4

/Timothy H Meeks/
Supervisory Patent Examiner, Art Unit 1792